

DOCUMENT RESUME

ED 174 344

PS 010 758

AUTHOR Taylor, Paul M.; And Others
TITLE Effects of Extra Contact on Early Maternal Attitudes, Perceptions, and Behaviors.
PUB DATE Mar 79
NOTE 18p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (San Francisco, California, March 15-18, 1979)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Attachment Behavior; Early Experience; *Infants; *Mothers; Nursing; Parent Child Relationship; Perception; *Perinatal Influences; Sex Differences
IDENTIFIERS *Bonding (Interpersonal Relations)

ABSTRACT

This paper presents results of the first part of a research program designed to test the hypothesis that an hour of extra contact between mother and infant beginning about one half hour after delivery would be associated with more secure attachment of an infant to its mother at one year. In the overall study extra contact infants were also expected to surpass control infants in cognitive and social-emotional development. Study subjects (n=65) were recruited late in the course of normal labors. Attempts were made to insure that the two study groups were matched. Observations were made and questionnaires were administered by study personnel unaware of the subjects' study groups. On the second postpartum day the Neonatal Perception Inventory (NPI) was administered and informed consent to participate in the study was obtained. The quality of mother-infant interaction during a feeding was rated when the infant was 48-72 hours old. At a home visit when the infant was 1 month old, another feeding interaction was rated, the second NPI was administered, and the Klaus and Kennell attachment questions were asked. Findings show that extra early contact had no demonstrable effects on the mother's perception of her infant, on the amount of time she chose to spend with the infant in hospital, or on the concern she expressed for the infant at 1 month. Extra early contact was associated with better quality interaction during feeding for mother-male infant pairs but not for mother-female infant pairs at 2 days and 1 month.

(Author/RH)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED174344

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

EFFECTS OF EXTRA CONTACT ON EARLY MATERNAL ATTITUDES

PERCEPTIONS, AND BEHAVIORS

Paul M. Taylor, Floyd H. Taylor, Susan B. Goodman Campbell,

Judy Maloni, and Deborah Dickey

Consultant: Elsie R. Broussard

SRCD, March 1979

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Susan B. Goodman
Campbell

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

PS 010758

INTRODUCTION

Almost a decade ago Klaus and Kennell suggested that a brief period might exist shortly after birth during which contact between mother and infant would promote optimal bonding of mother to infant. They arrived at this concept from consideration of the adverse effects of early neonatal separation on parenting in certain animals, and from suggestive evidence that prolonged separation of the human newborn from his parents is associated with an increased incidence of grossly distorted parenting. They proposed that contact during this sensitive period would provide the child lasting developmental benefits.

Klaus and Kennell carried out a clinical study to test the sensitive period hypothesis. Fourteen typical inner-city mothers who had routine contact with their first-born infants served as a control group. They had contact with the infant initially at about 8 hours after delivery and subsequent contact for about 30 minutes every 4 hours for feeding. Fourteen matched subjects had far greater contact with their firstborn infants and comprised the study group. These mothers spent an hour with their infants some time during the 3 hours following delivery and then had an extra 5 hours with them each day for the first 3 days, for a total of 16 hours extra postpartum contact. Extra contact mothers were more affectionate and attentive to their infants and expressed more concern for them at both one month and one year. This study has been interpreted as supporting the concept of a sensitive period immediately after birth, while relatively little emphasis has been given to the possibility that the 15 extra hours of postpartum contact subsequent to the first extra hour might have been at least partially responsible for the differences in outcome measures.

DeChateau's generally similar findings in a largely middle-class sample of Swedish primiparas, half of whom received a brief period of extra early contact with their infants, support the concept of an early sensitive period. DeChateau's study and control dyads experienced similar rooming-in care beginning, essentially, in the Delivery Room.

On the other hand, O'Connor reported at the meeting of this Society 2 years ago, that rooming-in without extra early contact markedly reduced the incidence of child abuse, neglect, and failure to thrive for inner-city first-born children.

Two years ago we began enrolling subjects into a study designed to test the hypothesis that an hour of extra contact between mother and infant beginning about one-half hour after delivery would be associated with more secure attachment of infant-to-mother at one year and better subsequent cognitive and social-emotional development. We conceptualized improved bonding of mother-to-infant as the variable which would mediate these effects. In this Symposium, I will first compare early outcome measures which may relate to the quality of the bond between mother and infant for regular and extra contact dyads. Dr. Susan Campbell will then compare the quality of attachment of our one-year-old control and study infants to their mothers. Finally, Dr. Susan O'Connor will present serial behavioral and developmental observations on another population of infants who received either routine or rooming-in nursery care.

DESCRIPTION OF STUDY

We recruited study subjects late in the course of normal labors. Recruitment was limited to healthy primagravidas at at least 36 weeks' gestation who planned to deliver without general anesthesia and who were under the care of practicing obstetricians. Subjects were randomly assigned to receive either regular contact or extra contact.

SLIDE 1

This diagram compares the mean amount of contact between mothers and infants in the 2 study groups. The second handout presents selected observations made in the Delivery and Recovery Rooms, some of which were used to construct this diagram. Time in minutes is related to birth, time zero. The mother's presence in Delivery Room and then Recovery Room is indicated by the lower straight line. The infant's proximity to the mother throughout this period is indicated by the upper lines--continuous for regular contact infants, dotted for extra contact infants. Contact is indicated by close proximity of the mother and infant lines.

Contact with mother was initially interrupted by birth and re-established for all infants when returned to their mothers' beds immediately prior to transfer to the Recovery Room. While in the Delivery Room, 17 of the 30 regular contact mothers touched but did not hold their infants and another 5 held their infants briefly. Similarly, 18 of the 35 extra contact mothers touched and 8 held their infants. On arrival in the Recovery Room, about 3 minutes later, the infants of both groups were removed from the mother and placed in cribs beside the mothers' beds.

Infants in the Extra Contact group remained in the crib for the 10 minutes it took to assess the mother's condition and were then returned to her bed. Mean duration of the ensuing extra contact was 51 minutes for male infants, 48 minutes for female infants. Following the extra contact the infants were returned to the cribs beside the mothers' beds for a half hour and then taken to the Nursery. Infants in the Regular Contact group remained in the crib in the Recovery Room for 50 minutes, on average, and were then transferred to the Nursery. Management of extra and regular contact infants was identical up to the onset of the extra contact, as indicated by the superimposed lines, and again identical following admissions of the extra contact infants to the Nursery. The 2 study groups were closely comparable with regard to a large variety of demographic, obstetric, and early neonatal variables. They differed significantly, therefore, only in the amount of early mother-infant contact.

We are reporting here on the effects of extra early contact on 4 early outcome measures which may reflect the quality of the mother's bond to her infant. Two of these measures, the attachment questions and quality of the mother-infant interaction, replicate the work of Klaus and Kennell and DeChateau. To our knowledge, the effects of extra early contact on the other two measures--the mother's perception of her infant, and the time she elects to spend with her infant--have not previously been studied.

Observations were made and questionnaires were administered by study

personnel unaware of the subjects' study groups. The first Neonatal Perception Inventory was administered during the second postpartum day, at the time Informed Consent to participate in the study was obtained. The quality of mother-infant interaction during a feeding was rated when the infant was 48-72 hours old. At a home visit at one month, a feeding interaction was rated, the second NPI was administered, and the Klaus and Kennell attachment questions were asked.

RESULTS

TIME WITH MOTHER

We hypothesized that a stronger mother-infant bond secondary to extra early contact would be associated with the mother's choosing to spend more time with her infant.

The third handout compares the amount of time infants in the control and study groups spent with their mothers during each of the first 3 postpartum days. Only those subjects cared for on family-centered care units are included in this analysis. Family-centered care is a modified rooming-in arrangement in which the mother may have her infant with her for as much of the day and evening as she wishes. Nursery nurses recorded the times infants were taken from and returned to nurseries for visits to their mothers. For each day, the mean number of mother-infant contacts, duration of each contact, and total contact time were similar for regular and extra contact groups. There was no suggestion of a systematic interaction between the sex of the infant, study group, and the time the infant spent with mother. The data do not support the hypothesis.

ATTACHMENT QUESTIONS

When the infants in their study were one-month old Klaus and Kennell asked their mothers how they responded to the infants' crying when dry and fed, and how they felt when they had gone out and left the infant. The frequency distributions of the composite scores for the 2 questions indicated that extended contact mothers expressed significantly greater concern than control mothers for their infants.

The fourth handout summarizes the responses of our study mothers to these questions. Mean scores for regular and extra contact mothers were identical for the "When the baby cries...?" question and nearly identical for the "When you went out...?" question. There is no suggestion of a sex effect. Our data do not confirm Klaus and Kennell's findings of greater expressed concern of extra contact mothers for their one-month-old infants.

NEONATAL PERCEPTION INVENTORY

Broussard has found a direct association between positive maternal perception of the one-month-old infant and his mental health as a preadolescent. This association was strengthened when the mother's perception of the infant when 1-2 days old was also taken into account. Composite perception is derived from comparison of the mother's perception of her infant with her perception of an average infant with respect to crying, feeding, spitting up, sleeping, bowel movements, and predictability of eating and sleeping patterns.

We hypothesized that enhanced mother-infant bonding secondary to extra early contact would be reflected by increase in the proportion of infants perceived positively by their mothers at one month of age.

Handout #5 shows that the distribution of subjects by NPI categories was similar for regular and extra contact mothers. The percent of infants perceived positively was also similar for both groups at 2 days and again at 1 month. The data do not support the postulated beneficial effect of extra contact on the mother's perception of her infant.

MOTHER-INFANT FEEDING PROFILE

The quality of mother-infant interaction has been reported to be improved by extra early contact...

- . during a feeding at 2 days by DeChateau and, independently, by Carlsson
- . during a feeding at 1 month by Klaus and Kennell
- . during free play at 3 months by deChateau.

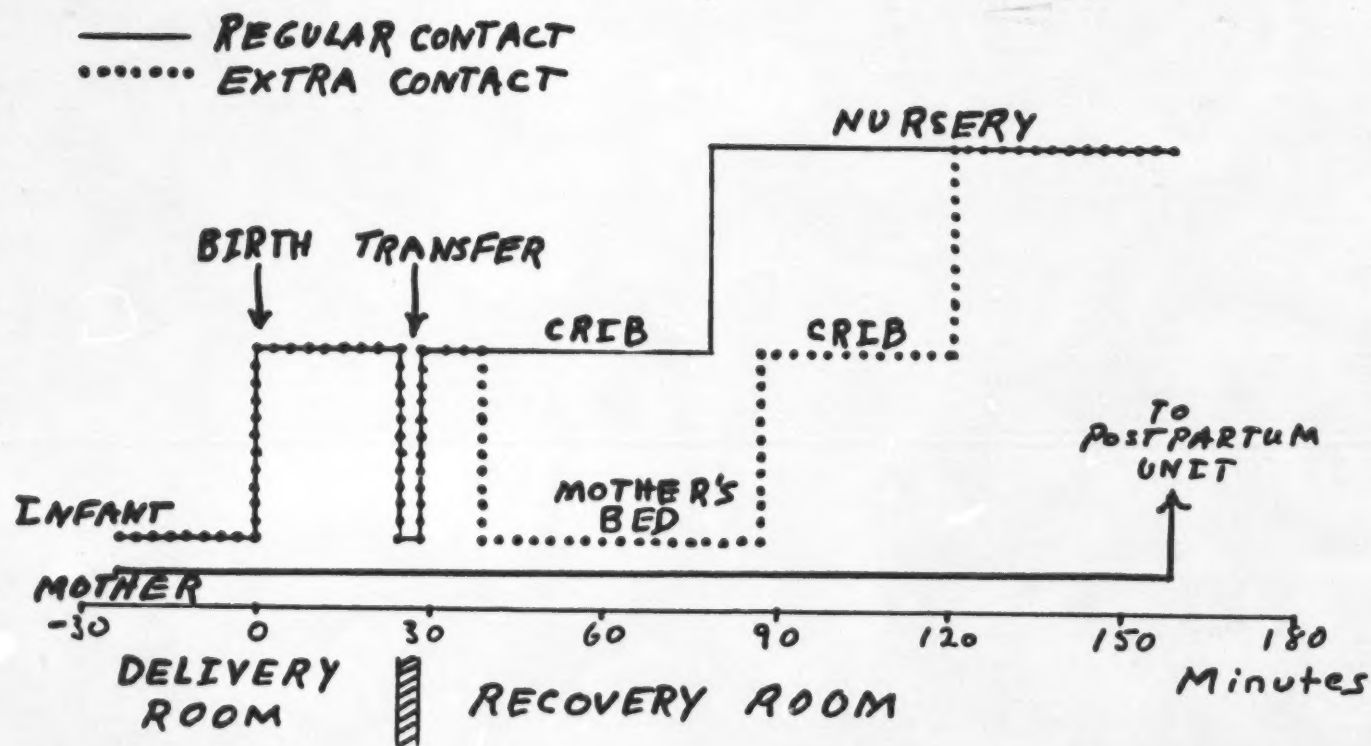
We rated the sensitivity, synchrony, reciprocity, and degree of pleasure of the mother-infant interaction during feeding in hospital at 2 days and during a home visit at 1 month. The Mother-Infant Feeding Profile was developed by Dickey and Gumerman from empirical study of feeding tapes provided by Dr. Kathryn Barnard. The next handout (#6) lists the 16 items rated on scales of 1-to-5, in which low scores indicate desirable qualities, high scores undesirable qualities. Scores for each item were combined to obtain the composite feeding profile score.

SLIDE 2

Mean scores were closely similar for regular contact mother-male and mother-female infant dyads at 2 days and again at 1 month. Extra contact mother-male infant dyads had lower mean scores (that is, better quality of interaction) than regular contact mother-male dyads at both 2 days and 1 month. Non-parametric evaluation of these data showed the differences to be significant at both ages. In contrast, for mother-female infant pairs, mean scores were somewhat higher for the extra than for the regular contact groups; these differences were not statistically significant.

These data confirm DeChateau's finding that extra contact was associated with better quality of feeding interactions at 2 days for boys and their mothers but not for mother-girl pairs. Our data also support Klaus and Kennell's observations of better quality feeding interaction for extra than for routine contact pairs at 1 month.

To summarize our findings, extra early contact had no demonstrable effects on the mother's perception of her infant, on the amount of time she chose to spend with the infant in hospital, or on the concern she expressed for the infant at 1 month. Extra early contact was associated with better quality interaction during feeding for mother-male infant pairs but not for mother-female infant pairs at 2 days and 1 month. This finding begs the question, "Is the improved quality of interaction between extra contact mothers and sons during the first month associated with lasting enrichment of their relationship and lasting developmental benefit to the child?" We begin to address that question in the next presentation.



EFFECTS OF EXTRA CONTACT ON EARLY MATERNAL ATTITUDES
 PERCEPTIONS, AND BEHAVIORS
 Paul M. Taylor, Floyd H. Taylor, Susan B. Goodman Campbell,
 Judy Maloni, and Deborah Dickey
 Consultant: Elsie R. Broussard
 SRCD, March 1979

EFFECTS OF EXTRA CONTACT ON EARLY MATERNAL ATTITUDES
PERCEPTIONS, AND BEHAVIORS
Paul M. Taylor, Floyd H. Taylor, Susan B. Goodman Campbell,
Judy Maloni, and Deborah Dickey
Consultant: Elsie R. Broussard
SRCD, March 1979

MEAN TIMES (MINUTES) AND FREQUENCIES

	<u>REGULAR CONTACT</u>			<u>EXTRA CONTACT</u>		
	<u>MALE</u> 18	<u>FEMALE</u> 12	<u>TOTAL</u> 30	<u>MALE</u> 22	<u>FEMALE</u> 13	<u>TOTAL</u> 35
<u>In Delivery Room</u>						
Before delivery	23.8	23.7	23.7	19.3	26.5	22.0
After delivery	23.4	25.1	24.1	25.6	25.3	25.5
Mother shown infant	17/18	10/12	27/30	22/22	13/13	35/35
Mother touches infant, but does not hold	11/18	6/12	17/30	13/22	5/13	18/35
Mother holds infant	2/18	3/12	5/30	5/22	3/13	8/35
Duration of holding	2.0	3.0	2.6	1.4	5.3	2.9
<u>Transfer to Recovery Room</u>						
Mother and infant together	2.9	3.4	3.1	2.6	2.5	2.6
<u>In Recovery Room</u>						
Infant taken from mother	26.3	28.5	27.2	28.2	27.8	28.1
Infant returned to mother to start extra contact	---	---	---	39.3	36.3	38.2
Infant taken from mother to end extra contact	---	---	---	90.1	82.5	87.5
Duration of extra contact	---	---	---	51.0	48.2	49.9
Infant nursed	---	---	---	11/22	2/13	13/35
Infant transferred to nursery	80.8	78.0	79.4	128.0	108.6	121.0
Mother transferred to postpartum unit	168.5	142.1	157.9	151.4	169.0	157.8

EFFECTS OF EXTRA CONTACT ON EARLY MATERNAL ATTITUDES
PERCEPTIONS, AND BEHAVIORS
Paul M. Taylor, Floyd H. Taylor, Susan B. Goodman Campbell,
Judy Maloni, and Deborah Dickey
Consultant: Elsie R. Broussard
SRCD, March 1979

TIME INFANT SPENDS WITH MOTHER

		<u>REGULAR CONTACT</u>			<u>EXTRA CONTACT</u>		
		<u>MALE</u>	<u>FEMALE</u>	<u>TOTAL</u>	<u>MALE</u>	<u>FEMALE</u>	<u>TOTAL</u>
<u>DAY 2</u>	Number of <u>Ss</u>	8	7	15	10	4	14
	Mean No. Contacts/ <u>S</u>	2.9	3.3	3.1	2.8	3.5	3.0
	Total Contact/ <u>S</u> (min.)	215	233	223	170	246	192
	Mean Duration of Contact (min.)	75.5	70.9	72.8	60.7	70.4	63.9
	Breast/Bottle	7/1	4/3	11/4	8/2	4/0	12/2
<u>DAY 2</u>	Number of <u>Ss</u>	7	8	15	9	3	12
	Mean No. Contacts/ <u>S</u>	4.0	4.3	4.1	4.3	4.3	4.3
	Total Contact/ <u>S</u> (min.)	388	327	356	421	411	419
	Mean Duration of Contact (min.)	97.1	77.0	86.1	97.2	94.8	96.6
	Breast/Bottle	6/1	5/3	11/4	8/1	3/0	11/1
<u>DAY 3</u>	Number of <u>Ss</u>	10	6	16	5	2	7
	Mean No. Contacts/ <u>S</u>	3.8	4.5	4.1	4.0	4.5	4.1
	Total Contact/ <u>S</u> (min.)	300	393	335	351	268	327
	Mean Duration of Contact (min.)	78.9	87.2	82.4	87.8	59.4	79.0
	Breast/Bottle	8/2	3/3	11/5	5/0	2/0	7/0

EFFECTS OF EXTRA CONTACT ON EARLY MATERNAL ATTITUDES
PERCEPTIONS, AND BEHAVIORS
Paul M. Taylor, Floyd H. Taylor, Susan B. Goodman Campbell,
Judy Maloni, and Deborah Dickey
Consultant: Elsie R. Broussard
SRCD, March 1979

ATTACHMENT QUESTIONS

QUESTION 1: "Have you gone out since your baby was born? How did you feel?"

- SCORES
- 1 - Did not want to leave.
 - 2 - Worried about baby while out.
 - 3 - Thought about infant while out.
 - 4 - Felt good while out.

QUESTION 2: "When the baby cries and has been fed, and his diapers are dry, what do you do?"

- SCORES:
- 1 - Always pick him up.
 - 2 - Tend to pick him up.
 - 3 - Tend to let him cry.
 - 4 - Always let him cry it out.

	<u>REGULAR CONTACT</u>			<u>EXTRA CONTACT</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
<u>Question 1</u>						
Mean Score	2.1	2.1	2.1	2.4	2.1	2.3
N	15	12	27	20	9	29
<u>Question 2</u>						
Mean Score	3.1	3.0	3.0	3.0	3.0	3.0
N	15	12	27	20	10	30

EFFECTS OF EXTRA CONTACT ON EARLY MATERNAL ATTITUDES
PERCEPTIONS, AND BEHAVIORS
Paul M. Taylor, Floyd H. Taylor, Susan B. Goodman Campbell,
Judy Maloni, and Deborah Dickey
Consultant: Elsie R. Broussard
SRCD, March 1979

NEONATAL PERCEPTION INVENTORIES

<u>NPI</u>		<u>REGULAR CONTACT</u>			<u>EXTRA CONTACT</u>		
<u>2 Days</u>	<u>1 Month</u>	<u>M</u>	<u>F</u>	<u>Total</u>	<u>M</u>	<u>F</u>	<u>Total</u>
+	+	8	5	13	11	3	14
-	+	2	5	7	5	3	8
+	-	4	3	7	4	1	5
-	-	<u>1</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>3</u>	<u>3</u>
		15	14	29	20	10	30

Positive Perception

at: <u>2 Days</u>	12/15	8/14	20/29	15/20	4/10	19/30
	(80%)	(57%)	(69%)	(75%)	(40%)	(63%)
<u>1 Month</u>	10/15	10/14	20/29	16/20	6/10	22/30
	(67%)	(71%)	(69%)	(80%)	(60%)	(73%)

**EFFECTS OF EXTRA CONTACT ON EARLY MATERNAL ATTITUDES
PERCEPTIONS, AND BEHAVIORS**
Paul M. Taylor, Floyd H. Taylor, Susan B. Goodman Campbell,
Judy Maloni, and Deborah Dickey
Consultant: Elsie R. Broussard
SRCD, March 1979

MOTHER-INFANT

FEEDING PROFILE (MIFP)

The composite score was obtained by adding ratings (on a 1 [best] to 5 [worst] scale) for each of the following 16 factors.

- kinesthetic contact
- tactile contact
- auditory contact
- visual contact
- protection from external stimulation
- infant-initiated contact
- responsiveness to infant's distress
- responsiveness to infant's feeding needs
- responsiveness to change in infant's state or needs
- smoothness of feeding process
- availability to infant
- tolerance of infant's messiness
- mother's level of comfort
- mother's affect
- infant's affect
- physical protection

The optimal composite score was thus 16, the worse possible score 80.

MEAN MIFP SCORES

	<u>Day 2</u>			<u>One Month</u>		
	<u>Regular</u>	<u>Extra</u>	<u>P</u>	<u>Regular</u>	<u>Extra</u>	<u>P</u>
Male	42.2 (12)	36.1 (14)	<0.05	43.8 (6)	32.3 (12)	<0.05
Female	43.9 (11)	48.9 (8)	N.S.	42.0 (8)	44.7 (6)	N.S.